

# PATENT COOPERATION TREATY

TRANSLATION

From the  
INTERNATIONAL SEARCHING AUTHORITY

## PCT

WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43bis.1)

To:

Date of mailing (day/month/year)
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Applicant's or agent's file reference <b>05F052-PCT</b>	FOR FURTHER ACTION See paragraph 2 below
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International application No. <b>PCT/JP2006/301489</b>	International filing date (day/month/year) <b>30.01.2006</b>	Priority date (day/month/year) <b>10.02.2005</b>
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International Patent Classification (IPC) or both national classification and IPC
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Applicant <b>SANKEN ELECTRIC CO., LTD.</b>
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**1. This opinion contains indications relating to the following items:**

- ☒ Box No. I      Basis of the opinion
- ☐ Box No. II      Priority
- ☐ Box No. III      Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV      Lack of unity of invention
- ☒ Box No. V      Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI      Certain documents cited
- ☐ Box No. VII      Certain defects in the international application
- ☐ Box No. VIII      Certain observations on the international application

**2. FURTHER ACTION**

If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

**3. For further details, see notes to Form PCT/ISA/220.**

Name and mailing address of the ISA/JP	Date of completion of this opinion	Authorized officer
Facsimile No.		Telephone No.

WRITTEN OPINION OF THE  
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International application No.

PCT/JP2006/301489

Box No. I      Basis of this opinion

1. With regard to the language, this opinion has been established on the basis of:

- ☒ the international application in the language in which it was filed
- ☐ the translation of the international application into \_\_\_\_\_, which is the language of a translation furnished for the purposes of international search (Rule 12.3(a) and 23.1(b)).

2. With regard to any nucleotide and/or amino acid sequence disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:

a. type of material

- ☐ a sequence listing
- ☐ table(s) related to the sequence listing

b. format of material

- ☐ on paper
- ☐ in electronic form

c. time of filing/furnishing

- ☐ contained in the international application as filed
- ☐ filed together with the international application in electronic form
- ☐ furnished subsequently to this Authority for the purposes of search

3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table(s) relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.

4. Additional comments:

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International application No.

PCT/JP2006/301489

Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims <u>1-11</u>	YES
	Claims _____	NO
Inventive step (IS)	Claims <u>1-11</u>	YES
	Claims _____	NO
Industrial applicability (IA)	Claims <u>1-11</u>	YES
	Claims _____	NO

2. Citations and explanations:

Regarding claims 1 to 11

Document 1 (JP 2004-363327 A) and document 2 (JP 2004-221370 A) cited in the ISR do not describe a point regarding "a first region is formed occupying a first proportion with respect to the third semiconductor region to the second semiconductor region at a central side of the semiconductor substrate, wherein a second region, which occupies a second proportion greater than the first proportion with respect to the third semiconductor region to the second semiconductor region, is formed at an outer peripheral side of the semiconductor substrate so as to surround the first region" as in claim 1 of the present application; a point regarding "a third semiconductor region is formed such that a proportion occupying the second semiconductor region thereof along a first direction has a peripheral portion larger than a central portion of the semiconductor substrate and a proportion occupying the second semiconductor region of the third semiconductor region is formed along a second direction orthogonal to the first direction such that a peripheral portion is larger than a central portion of the semiconductor substrate" as in claim 7; a point regarding "the insulating film is provided with a first region having a first thickness formed in a central region of the semiconductor substrate and a second region formed having a second thickness that is thinner than the first region and is formed at a peripheral side of the semiconductor substrate so as to surround the first region" as in claim 10; or a point regarding "the second semiconductor region is provided with a first region formed having a first impurity concentration at a central side of the semiconductor substrate and a second region formed having a second impurity concentration that is lower than the first impurity concentration and that is formed at a peripheral side of the semiconductor substrate so as to surround the first region" as in claim 11, and the inventions of the claims of the present application can be considered to involve novelty and inventive step.